NEW Glass LED T8 Lamps

RetroFlex™
Type A Plug & Play Ballast Compatible Series

October 2017

ESKEN TECHNOLOGY

TYPE A LEDS
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RetroFlex™ Type A Ballast Compatible Series

#### GLASS LED LAMPS

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(866) 933-7736 | info@espentech.com
# RetroFlex™ Glass

## Type A Plug & Play Ballast Compatible LED T8 Lamps

**10W, 14W**

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### FEATURES AND BENEFITS

- Direct LED Replacement for T8 Fluorescent Lamps
- Quick and Convenient Installation
- Instant On, No Delay
- Compatible with Electronic Ballasts - Instant Start, Programmed Start and Dimming
- Utilizes Existing Shunted or Non-Shunted Tombstones
- Maintains the Original UL Certification of the Fixture
- Compatible with Controls and Sensors
- Glass Tube for Optimal Light Output and Heat Diffusion
- Frosted to Prevent Glare
- -5° F to 130° F Ambient Operating Temperature
- Integrated Thermal Fuse Protection
- Suitable for Damp Locations
- 325° Wide Beam Angle
- Dimmable
- 5 Year Warranty

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### Model Specifications

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<th>Replaces</th>
<th>Length (in)</th>
<th>Lamp Power (W)</th>
<th>System Power (W)</th>
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1. See espentech.com for ballast compatibility list.
2. DLC Pending.
3. Not DLC listed. DLC does not regulate 3 foot lamps.
4. System Power and Lumens based on normal ballast factor (0.88). Operation on low or high ballast factor will yield alternate specifications.
5. Input Voltage is dependant on ballast brand and model number. See espentech.com for ballast compatibility list.

Specifications are subject to change without notice.
RetroFlex™ Glass
Type A Plug & Play Ballast Compatible LED U-Bent Lamps

FEATURES AND BENEFITS

- Direct LED Replacement for T8 Fluorescent Lamps
- Quick and Convenient Installation
- Instant On, No Delay
- Compatible with Electronic Ballasts - Instant Start, Programmed Start and Dimming
- Utilizes Existing Shunted or Non-Shunted Tombstones
- Maintains the Original UL Certification of the Fixture
- Compatible with Controls and Sensors
- Glass Tube for Optimal Light Output and Heat Diffusion
- Frosted to Prevent Glare
- -5° F to 130° F Ambient Operating Temperature
- Integrated Thermal Fuse Protection
- Suitable for Damp Locations
- 325° Wide Beam Angle
- Dimmable
- 5 Year Warranty

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1. See espentech.com for ballast compatibility list.
2. System Power and Lumens based on normal ballast factor (0.88). Operation on low or high ballast factor will yield alternate specifications. Input Voltage is dependant on ballast brand and model number. See espentech.com for ballast compatibility list. May be subject to lead times and availability.
RetroFlex™ ArmorCoat™
Type A Plug & Play Ballast Compatible LED T5 Lamps

FEATURES AND BENEFITS

Direct LED Replacement for T5 Fluorescent Lamps
Quick and Convenient Installation
Instant On, No Delay
Compatible with Electronic Ballasts - Instant Start, Programmed Start and Dimming
Utilizes Existing Shunted or Non-Shunted Tombstones
Maintains the Original UL Certification of the Fixture
Compatible with Controls and Sensors
ArmorCoat™ Shatterproof Coating
ETL Sanitation Listed - Conforms to NSF/ANSI 2
Rated for Use in Food Prep Areas and Refrigerated Food Displays
Glass Tube for Optimal Light Output and Heat Diffusion
Frosted to Prevent Glare
-5° F to 130° F Ambient Operating Temperature
Integrated Thermal Fuse Protection
Suitable for Damp Locations
240° Wide Beam Angles
Dimmable
5 Year Warranty

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1 Restrictions when dimming T5 High Output lamps. See espentech.com for ballast compatibility
2 Not DLC listed. DLC does not regulate 3 foot lamps.
3 System Power and Lumens based on normal ballast factor (1.0). Operation on low or high ballast factor will yield alternate specifications.
4 Input Voltage is dependant on ballast brand and model number. See espentech.com for ballast compatibility list.

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FEATURES AND BENEFITS

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325° Wide Beam Angles
Dimmable¹
5 Year Warranty

---

<table>
<thead>
<tr>
<th>Model No.</th>
<th>Replaces</th>
<th>Length (in)</th>
<th>Lamp Power (W)</th>
<th>System Power¹ (W)</th>
<th>Lumens² (lm)</th>
<th>Lamp Efficacy (lm/W)</th>
<th>Voltage³ (V)</th>
<th>CCT (K)</th>
<th>CRI</th>
<th>Life (h)</th>
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<tr>
<td>L48T8/830/12G-EB-AC</td>
<td>F32T8</td>
<td>48</td>
<td>12</td>
<td>14</td>
<td>1900</td>
<td>136</td>
<td>120 - 277, 347</td>
<td>3000+</td>
<td>83+</td>
<td>50000</td>
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</table>

¹ See espentech.com for ballast compatibility list.
² System Power and Lumens based on normal ballast factor (0.88). Operation on low or high ballast factor will yield alternate specifications.
³ Input Voltage is dependent on ballast brand and model number. See espentech.com for ballast compatibility list.

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(866) 933-7736 | info@espentech.com
RetroFlex™ ArmorCoat™
Type A Plug & Play Ballast Compatible Single Pin LED T8 Lamps

FEATURES AND BENEFITS

LED Replacement for T8 and T12 Fluorescent Lamps
Quick and Convenient Installation
Instant On, No Delay
60” and 72” Lamps Compatible with ESPEN VE2P32MVHIPE Ballasts ONLY
96” Lamps Compatible with ESPEN VE259MVHIP Ballasts
Utilizes Existing Shunted or Non-Shunted Tombstones
Maintains the Original UL Certification of the Fixture
Compatible with Controls and Sensors
ArmorCoat™ Shatterproof Coating
Glass Tube for Optimal Light Output and Heat Diffusion
Frosted to Prevent Glare
Bracket Included
-5° F to 130° F Ambient Operating Temperature
Integrated Thermal Fuse Protection
Suitable for Damp Locations
325° Wide Beam Angle
5 Year Warranty

Specifications are subject to change without notice.

1. See espentech.com for additional ballast compatibility.
2. System Power and Lumens based on normal ballast factor (0.88). Operation on low or high ballast factor will yield alternate specifications.
3. Input Voltage is dependant on ballast brand and model number. See espentech.com for ballast compatibility list.

+ May be subject to lead times and availability.
**RetroFlex™ ArmorCoat™**

Type A Plug & Play Ballast Compatible Recessed Double Contact LED T8 Lamps

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**FEATURES AND BENEFITS**

- LED Replacement for T8 and T12 Fluorescent Lamps
- Quick and Convenient Installation
- Instant On, No Delay
- 60" and 72" Lamps Compatible with ESPEN VE2P32MVHIPE Ballasts ONLY
- 96" Lamps Compatible with ESPEN VE259MVHIP Ballasts
- Utilizes Existing Shunted or Non-Shunted Tombstones
- Maintains the Original UL Certification of the Fixture
- Compatible with Controls and Sensors
- ArmorCoat™ Shatterproof Coating
- Glass Tube for Optimal Light Output and Heat Diffusion
- Frosted to Prevent Glare
- -5° F to 130° F Ambient Operating Temperature
- Integrated Thermal Fuse Protection
- Suitable for Damp Locations
- 325° Wide Beam Angle
- 5 Year Warranty

---

<table>
<thead>
<tr>
<th>Model No.</th>
<th>Replaces</th>
<th>Base Type</th>
<th>Length (in)</th>
<th>Lamp Power (W)</th>
<th>System Power (W)</th>
<th>Lumens (lm)</th>
<th>Lamp Efficacy (lm/W)</th>
<th>Input Voltage (V)</th>
<th>CCT (K)</th>
<th>CRI</th>
<th>Life (h)</th>
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<tr>
<td>L60T8HO/830/15G-EB</td>
<td>F60T12HO, F60T12VHO</td>
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<td>120 - 277, 347</td>
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<td>L60T8HO/840/15G-EB</td>
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<td>L72T8HO/830/18G-EB</td>
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<td>120 - 277, 347</td>
<td>5000+</td>
<td>83+</td>
<td>50000</td>
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<tr>
<td>L96T8HO/830/42G-EB</td>
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<td>120 - 277, 347</td>
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<td>83+</td>
<td>50000</td>
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<td>96</td>
<td>42</td>
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</tbody>
</table>

1. See espentech.com for additional ballast compatibility.
2. System Power and Lumens based on normal ballast factor (0.88). Operation on low or high ballast factor will yield alternate specifications.
3. Input Voltage is dependant on ballast brand and model number. See espentech.com for ballast compatibility list.

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May be subject to lead times and availability.

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(866) 933-7736 | info@espentech.com
Santa Fe Springs, California is home to Espen Technology Inc.’s Buy American Act Compliant LED tube and retrofit kit production line. Here, materials and components are put through a refining process in a set of sequential operations to produce quality end-products. Espen’s products reflect an emphasis on sustainability, quality, and reliability.
RetroFlex™ BAA Nano-Plastic
Type A Plug & Play Ballast Compatible Buy American Act Compliant LED T5 Lamps

FEATURES AND BENEFITS

Buy American Act Compliant Direct LED Replacement for T5 Fluorescent Lamps
Quick and Convenient Installation
Instant On, No Delay
Compatible with Electronic Ballasts - Instant Start, Programmed Start and Dimming
Utilizes Existing Shunted or Non-Shunted Tombstones
Maintains the Original UL Certification of the Fixture
Compatible with Sensors
Shatterproof Nano-Plastic Tube
Rated for Use in Food Prep Areas and Refrigerated Food Displays
Frosted to Prevent Glare
-5° F to 130° F Ambient Operating Temperature
Integrated Thermal Fuse Protection
Suitable for Damp Locations
240° Wide Beam Angles
Dimmable
5 Year Warranty

Model No. | Replaces | Length (in) | Lamp Power (W) | System Power (W) | Lumens (lm) | Lamp Efficacy (lm/W) | Input Voltage (V) | CCT (K) | CRI | Life (h)
---|---|---|---|---|---|---|---|---|---|---
Linear T5 High Output (HO)
L24T5/830/11P-EB BAA^2 F24T5HO 22 11 14 1400 127 120 - 277, 347 3000^2 83+ 50000
L24T5/835/11P-EB BAA^2 F24T5HO 22 11 14 1400 127 120 - 277, 347 3500 83+ 50000
L24T5/840/11P-EB BAA^2 F24T5HO 22 11 14 1400 127 120 - 277, 347 4000 83+ 50000
L24T5/850/11P-EB BAA^2 F24T5HO 22 11 14 1400 127 120 - 277, 347 5000 83+ 50000
L36T5/830/16P-EB BAA^2 F39T5HO 34 16 18 2000 125 120 - 277, 347 3000^2 83+ 50000
L36T5/835/16P-EB BAA^2 F39T5HO 34 16 18 2000 125 120 - 277, 347 3500 83+ 50000
L36T5/840/16P-EB BAA^2 F39T5HO 34 16 18 2000 125 120 - 277, 347 4000 83+ 50000
L36T5/850/16P-EB BAA^2 F39T5HO 34 16 18 2000 125 120 - 277, 347 5000 83+ 50000
L48T5/830/24P-EB BAA^2 F54T5HO 46 24 27 3200 133 120 - 277, 347 3000^2 83+ 50000
L48T5/835/24P-EB BAA^2 F54T5HO 46 24 27 3200 133 120 - 277, 347 3500 83+ 50000
L48T5/840/24P-EB BAA^2 F54T5HO 46 24 27 3200 133 120 - 277, 347 4000 83+ 50000
L48T5/850/24P-EB BAA^2 F54T5HO 46 24 27 3200 133 120 - 277, 347 5000 83+ 50000

1 See espentech.com for ballast compatibility list.
2 DLC pending.
3 Not DLC listed. DLC does not regulate 3 foot lamps.
4 System Power and Lumens based on normal ballast factor (1.0). Operation on low or high ballast factor will yield alternate specifications.
5 Input Voltage is dependant on ballast brand and model number. See espentech.com for ballast compatibility list.
**FEATUERS AND BENEFITS**

Buy American Act Compliant Direct LED Replacement for T8 Fluorescent Lamps  
Quick and Convenient Installation  
Instant On, No Delay  
Compatible with Electronic Ballasts - Instant Start, Programmed Start and Dimming†  
Utilizes Existing Shunted or Non-Shunted Tombstones  
Maintains the Original UL Certification of the Fixture  
Compatible with Sensors  
Shatterproof Nano-Plastic Tube  
Rated for Use in Food Prep Areas and Refrigerated Food Displays  
Frosted to Prevent Glare  
-5° F to 130° F Ambient Operating Temperature  
Integrated Thermal Fuse Protection  
Suitable for Damp Locations  
325° Wide Beam Angles  
Dimmable†  
5 Year Warranty

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**Specifications are subject to change without notice.**
RetroFlex™ BAA Nano-Plastic
Type A Plug & Play Ballast Compatible Buy American Act Compliant LED U-Bent Lamps

FEATURES AND BENEFITS

Buy American Act Compliant Direct LED Replacement for U-Bent T8 Fluorescent Lamps
Quick and Convenient Installation
Instant On, No Delay
Compatible with Electronic Ballasts - Instant Start, Programmed Start and Dimming
Utilizes Existing Shunted or Non-Shunted Tombstones
Maintains the Original UL Certification of the Fixture
Compatible with Sensors
Shatterproof Nano-Plastic Tube
Rated for Use in Food Prep Areas and Refrigerated Food Displays
Frosted to Prevent Glare
-5° F to 130° F Ambient Operating Temperature
Integrated Thermal Fuse Protection
Suitable for Damp Locations
325° T8 Wide Beam Angles
Dimmable
5 Year Warranty

Input Voltage is dependant on ballast brand and model number. See espentech.com for ballast compatibility list.
Operation on low or high ballast factor will yield alternate specifications.

May be subject to lead times and availability.

Model No. | Replaces | Length (in) | Lamp Power (W) | System Power 1 (W) | Lumens 2 (lm) | Lamp Efficacy (lm/W) | Input Voltage 3 (V) | CCT (K) | CRI | Life (h)
--- | --- | --- | --- | --- | --- | --- | --- | --- | --- | ---
LB48T8U6/830/15P-EB BAA | FB32T8 | 48 | 15 | 17 | 2200 | 147 | 120 - 277, 347 | 3000+ | 83+ | 50000
LB48T8U6/835/15P-EB BAA | FB32T8 | 48 | 15 | 17 | 2200 | 147 | 120 - 277, 347 | 3500 | 83+ | 50000
LB48T8U6/840/15P-EB BAA | FB32T8 | 48 | 15 | 17 | 2200 | 147 | 120 - 277, 347 | 4000 | 83+ | 50000
LB48T8U6/850/15P-EB BAA | FB32T8 | 48 | 15 | 17 | 2200 | 147 | 120 - 277, 347 | 5000 | 83+ | 50000

1 See espentech.com for ballast compatibility list.
2 System Power and Lumens based on normal ballast factor (0.88). Operation on low or high ballast factor will yield alternate specifications.
3 Input Voltage is dependant on ballast brand and model number. See espentech.com for ballast compatibility list.

(866) 933-7736 | info@espentech.com
# RetroFlex™ Nano-Plastic

Type A Plug & Play Ballast Compatible LED U-Bent Lamps

## FEATURES AND BENEFITS

- Direct LED Replacement for T8 Fluorescent Lamps
- Quick and Convenient Installation
- Instant On, No Delay
- Compatible with Electronic Ballasts - Instant Start, Programmed Start and Dimming
- Utilizes Existing Shunted or Non-Shunted Tombstones
- Maintains the Original UL Certification of the Fixture
- Compatible with Controls and Sensors
- Shatterproof Nano-Plastic Tube
- Frosted to Prevent Glare
- -5° F to 130° F Ambient Operating Temperature
- Integrated Thermal Fuse Protection
- Suitable for Damp Locations
- 325° Wide Beam Angle
- Dimmable
- 5 Year Warranty

## Specifications

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<th>Replaces</th>
<th>Length (in)</th>
<th>Lamp Power (W)</th>
<th>System Power (W)</th>
<th>Lumens (lm)</th>
<th>Lamp Efficacy (lm/W)</th>
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<td>FB32T8</td>
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<td>15</td>
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<td>150</td>
<td>120 - 277, 347</td>
<td>3000*</td>
<td>82+</td>
<td>50000</td>
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<td>FB32T8</td>
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<td>120 - 277, 347</td>
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<td>50000</td>
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1. See espentech.com for ballast compatibility list.
2. System Power and Lumens based on normal ballast factor (0.88). Operation on low or high ballast factor will yield alternate specifications.
3. Input Voltage is dependant on ballast brand and model number. See espentech.com for ballast compatibility list.

Specifications are subject to change without notice.
# Ballasts & Drivers

## Type A Compatible Ballasts & Drivers

![Electronic Ballast]

**FEATURES AND BENEFITS**

### Electronic Ballasts
- Slim Profile
- Lamp Auto Restrike
- High Efficiency
- 5 Year Warranty

### Non-Dimmable Drivers
- Constant Current
- Universal Voltage (120 - 277V)
- 5 Year Warranty

### Dimmable Drivers
- Constant Current
- Universal Voltage (120 - 277V)
- 0 - 10V Continuous Dimming (10% - 100%)
- 5 Year Warranty

### Emergency Ballasts - Regular & Slim
- Dual Input Voltage (120/277V)
- Maintenance Free, Long Life
- High Temperature Ni-Cad Battery
- Durable, Heavy-Duty Steel Housing
- 7 Year Warranty

### Model No. and Specifications

<table>
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<tr>
<th>Model No.</th>
<th>Type</th>
<th>Compatible Lamps</th>
<th>Number of Lamps</th>
<th>Voltage (V)</th>
<th>Method</th>
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<td>120 - 277</td>
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<td>VE454MVHRP</td>
<td>Electronic Ballast</td>
<td>F54T5HO</td>
<td>2, 3 or 4</td>
<td>120 - 277</td>
<td>Program Start</td>
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<tr>
<td>VE2P32MVIPE</td>
<td>Electronic Ballast</td>
<td>F17T8 - F32T8</td>
<td>1 or 2</td>
<td>120 - 277</td>
<td>Instant Start</td>
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<tr>
<td>VE4P32MVIPE</td>
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<td>F17T8 - F32T8</td>
<td>2, 3 or 4</td>
<td>120 - 277</td>
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<td>VE259MVHIP</td>
<td>Electronic Ballast</td>
<td>F96T8, F96T12</td>
<td>1 or 2</td>
<td>120 - 277</td>
<td>Instant Start</td>
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<th>Number of Lamps</th>
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<tbody>
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<td>Constant Current Non-Dimmable Driver</td>
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<td>Constant Current Non-Dimmable Driver</td>
<td>RetroFlex Type A LED Lamps</td>
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<tr>
<td>VEL30BN-2C-10V</td>
<td>Constant Current Dimmable Driver</td>
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<table>
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<tr>
<th>Model No.</th>
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<th>Lumens</th>
<th>Voltage (V)</th>
<th>Operation Hours</th>
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<td>VEM800DV-L</td>
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<td>VEM1300DV-L</td>
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<td>120/277</td>
<td>90 mins</td>
<td>Slim</td>
</tr>
</tbody>
</table>